

OPERABLE UNIT 3

PLANT 1 COMPLEX - PHASE II IMPLEMENTATION PLAN FOR ABOVE-GRADE DECONTAMINATION AND DISMANTLEMENT



AUGUST 2002

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

U. S. DEPARTMENT OF ENERGY
FERNALD AREA OFFICE

Final

DOCUMENT CONTROL NO. 1789-PL-0004 (REV. 0) PCN1

RECORD OF ISSUE/REVISION

<u>DATE</u>	<u>REVISION NO.</u>	<u>DESCRIPTION AND AUTHORITY</u>
6/19/02	Rev. 0	Issued Final Implementation Plan
8/15/02	Rev. 0, PCN1	Table 2-3 has been revised to include the ACM in Building 71 and G-008. Tables 2-4 and 2-5 have been revised to include the ACM in G-008. Appendix C, Specifications 01789-TS-0001, Section 01515, Part 3.2 B1 has been revised to allow the Contractor to fill large openings in slabs with contaminated fill in lieu of clean material.

PLANT 1 COMPLEX – PHASE II IMPLEMENTATION PLAN

DOCUMENT NUMBER 1789-PL-0004 (REV. 0) PCN1

PAGE CHANGES

INCLUDES:

COVER PAGE/RECORD OF REVISIONS

PAGE 13/14

APPENDIX C, SIGNATURE PAGE/REVISION SUMMARY

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APPENDIX C, SPECIFICATION SECTION 01515, REVISION 3

TABLE 2-3 Plant 1 Complex - Phase II Bulk Material Volume Estimates (yd³)

Component Number	OU3 Debris Categories										Totals
	Cat. A	Cat. B	Cat. C	Cat. D	Cat. E	Cat. F	Cat. G	Cat. H	Cat. I	Cat. J	
1B	225.0	102.0	0	0	0	0	0	0	0	1	328
30A	1116.0	264.0	0	0	16.0	0	80.0	9.0	100.0	3	1588
56A	243.0	189.0	0	0	0	0	0	3.0	0	3	438
71	321.0	145.0	0	0	356.0	0	0	6.0	413.0	4	1245
TS-004	395.0	228.0	0	0	0	0	0	0	48.0	1	672
TS-005	395.0	225.0	0	0	0	0	0	0	48.0	1	669
TS-006	43.0	30.0	0	0	0	0	0	0	5.0	1	79
G-008	214.0	1.0	0	0	0	0	0	50.0	0	1	266
Complex	2952	1184	0	0	372	0	80	68	614	15	5285
Total											
Container/	ROB	ROB	WMB	ROB	ROB	ROB	Pallets	ISO	ROB	DRUM	
Quantity	99	40	0	0	16	0	40	2	28	8	
Interim Storage	OSDF Transfer	OSDF Transfer	TBD	OSDF Transfer	OSDF Transfer	WPRAP	OSDF Transfer	TBD	OSDF Transfer	TBD	
Disposition	OSDF	OSDF	offsite	OSDF	OSDF	OFFSITE	OSDF	OSDF	OSDF	OFFSITE	

General Notes:

OU3 Debris Categories: Cat. A – Accessible Metals; Cat. B – Inaccessible Metals; Cat. C – Process-Related Metals; Cat. D – Painted Light Gauge Metals; Cat. E – Concrete; Cat. F – Brick; Cat. G – Non-Regulated ACM; Cat. H – Regulated ACM; Cat. I – Miscellaneous Materials; Cat. J – Special Handling and/or Hazardous Waste.

ROB: Roll-Off Box holds 30 cubic yards (810 cubic feet) and/or 16.95 tons of material; **TL:** top-Loading (also referred to as a Large White Metal Box) holds 35.9 cubic yards (970 cubic feet) and/or 18 tons of material; **ISO:** End-Loading Container/Sea Land boxes, holds up to 36 cubic yards (971 cubic feet) and/or 42,000 lbs. of material; **DRUM:** holds 55 gallons of material.

OSDF Transfer: On-site Disposal Facility Transfer area. Refers to direct disposal in the OSDF; however, the ability to deliver debris directly to the OSDF Transfer Area is dependent on whether the OSDF is accepting debris and/or availability of containers (ROBs) for transport. If necessary, Category A, B, D, and E debris may be temporarily stockpiled on the Pilot Plant Pad at project completion.

TBD: To be determined. Assumes Plant 1 Pad will no longer be available for interim storage.

TABLE 2-4 Plant 1 Complex - Phase II Un-bulked Material Volume Estimates (yd³)

Component Number	OU3 Debris Categories										Total
	Cat. A	Cat. B	Cat. C	Cat. D	Cat. E	Cat. F	Cat. G	Cat. H	Cat. I	Cat. J	
1B	75.0	34.0	0	0	0	0	0	0	0	.3	109.3
30A	372.0	88.0	0	0	12.0	0	66.0	3.0	221.0	1	763.0
56A	81.0	63.0	0	0	0	0	0	3.0	0	1	148.0
71	107.0	48.0	0	0	273.0	0	0	2.0	602.0	1	1033.0
TS-004	131.0	99.0	0	0	0	0	0	0	48.0	.3	278.3
TS-005	131.0	75.0	0	0	0	0	0	0	48.0	.3	254.3
TS-006	14.0	10.0	0	0	0	0	0	0	5.0	.3	29.3
G-008	71.0	1.0	0	0	0	0	0	25.0	0	.3	97.3
Complex	982	418	0	0	285	0	66	33	924	4.5	2712.0
Total											

General Note:

Refer to Table 2-3 for OU3 Debris Category descriptions.

TABLE 2-5 Plant 1 Complex - Phase II Material Weight Estimates (Tons)

Component Number	OU3 Debris Categories										Total
	Cat. A	Cat. B	Cat. C	Cat. D	Cat. E	Cat. F	Cat. G	Cat. H	Cat. I	Cat. J	
1B	60.0	7.5	0	0	0	0	0	0	0	.3	67.8
30A	297.6	19.4	0	0	11.6	0	35.0	1.0	120.0	1	485.6
56A	64.8	13.9	0	0	0	0	0	1.0	0	1	80.7
71	85.6	10.6	0	0	254.0	0	0	.6	300.0	1	651.8
TS-004	104.8	21.8	0	0	0	0	0	0	24.0	.3	150.9
TS-005	104.8	16.5	0	0	0	0	0	0	24.0	.3	145.6
TS-006	11.2	2.2	0	0	0	0	0	0	2.5	.3	16.2
G-008	56.8	.1	0	0	0	0	0	8.0	0	.3	65.2
Complex	785.6	92	0	0	265.6	0	35	10.6	470.5	4.5	1663.0
Total											

General Note:

Refer to Table 2-3 for OU3 Debris Category descriptions.

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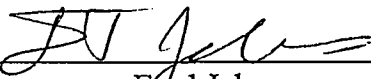


DEMOLITION CLOSURE PROJECT

SPECIFICATIONS

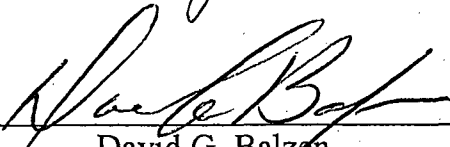
PROJECT: 01789
SPEC 01789-TS-0001
FLUOR FERNALD ENGINEERING SUPPORT
REVISION 6

PREPARED BY:


Fred Jebens

7/29/02
Date

APPROVED BY:


David G. Balzen

7/30/02
Date

U. S. DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

Fluor Fernald, Inc.
P.O. Box 538704
Cincinnati, Ohio 45253-8704

Title: Demolition Closure Project	Specification No: 01789-TS-0001		
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ISSUE AND REVISION SUMMARY

<u>Revision</u>	<u>Date</u>	<u>Description of Issue or Revision</u>
0	09/04/01	Issued CFC Verbiage formats and conflicts with the IFB corrected. Initiated by Joyce Leslie. HEPA Vacuum and /Air Filtration Device specifications updated. Initiated by Joe Stoner.
1	12/10/01	Implemented comment resolutions made on HEPA Vacuum/Air Filtration Device specifications. Initiated by Joe Stoner. Update of Technical References, codes and standards. Initiated by Joyce Leslie and Joe Stoner.
2	1/28/02	Added changes per DCN 1789-001. Initiated by Jerry Fry and Joe Stoner.
3	04/11/02	Added exception to Section 01120 per DCN 1789-002. Initiated by Jerry Fry and Joe Stoner
4	04/25/02	Added condition to 3.2.D.2 of Section 01515 per DCN 1789-003. Initiated by Jerry Fry and Joe Stoner.
5	6/27/02	Added condition to 3.1.B.3.c of Section 01517 per DCN 1789-005. Initiated by Jerry Fry and Joyce Leslie.
6	6/27/02	Added condition to 3.2.B.1. of Section 01515 per DCN 1789-007. Initiated by Jerry Fry and Joyce Leslie.

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2	01120	Debris/Waste Handling Criteria
3	01515	Mobilization, Demobilization and General Site Requirements
1	01516	Asbestos Abatement
2	01517	Removing/Fixing Radiological Contamination
1	01519	Decontamination of Contractor Provided Tools, Equipment and Material
1	03315	Concrete/Masonry Removal
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2	05126	Structural Steel Dismantlement
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0	11010	HEPA Vacuum Cleaner Requirements
1	15065	Equipment/System Dismantlement
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0	15860	HEPA Air Filtration Device Requirements

END OF SECTION

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Approved:



Fred Jehens
7/29/02
Date**SECTION 01515****MOBILIZATION, DEMOBILIZATION AND
GENERAL SITE REQUIREMENTS****PART I GENERAL****1.1 SUMMARY**

This Section consists of the work related to Contractor mobilization, demobilization, and general site requirements. The principal items included in this Section are:

- A. Site access,
- B. Slab Repair,
- C. Construction utilities,
- D. Signs and barriers,
- E. Potential use of existing overhead bridge cranes,
- F. Gravel pads for access and queuing areas,
- G. Protecting adjacent facilities and components,
- H. Stormwater control,
- I. Debris chutes,
- J. Remediation equipment, and
- K. Ventilation and containment.

1.2 RELATED SECTIONS

- A. Section 01120 - Debris/Waste Handling Criteria
- B. Section 01519 - Decontamination of Contractor Provided Tools, Equipment and Materials
- C. Section 03315 - Concrete/Masonry Removal
- D. Section 05126 - Structural Steel Dismantlement
- E. Section 07415 - Transite Removal
- F. Section 15065 - Equipment/System Dismantlement
- G. Section 15067 - Ventilation and Containment

1.3 REFERENCE MATERIALS

Fluor Fernald will provide access to existing site drawings at the Fluor Fernald office located at:

175 Tri-County Parkway
Cincinnati, OH 45246-3222

Drawings will be provided on an information only basis.

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1.4 REFERENCES, CODES AND STANDARDS

The entire work under this Section shall be in compliance with the provisions of the following:

A. American Society of Testing and Materials (ASTM):

1. ASTM A36/A36M Rev A Standard Specification for Carbon Structural Steel
2. ASTM C109/C109M Standard Test Method for Compressive Strength of Hydraulic Cement Mortars ((Using 2 - in. or (50 - mm) Cube Specimens))
3. ASTM C136 2000 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
4. ASTM A475 1998 Standard Specification for Zinc-Coated Steel Wire Strand
4. ASTM D698 Rev A Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort ((12,400 ft-lbs/ft. (600kN-m/m³))
5. ASTM C827 2001 Standard Test Method for Change in Height at Early Ages of Cylindrical Specimens from Cementitious Mixtures
6. ASTM C1042 Standard Test Method for Bond Strength of Latex Systems Used with Concrete by Slant Shear

B. National Fire Protection Association (NFPA):

1. NFPA 70 National Electrical Code, 1996 Edition
2. NFPA 101 ® Life Safety Code ® 2000 Edition, NFPA 101A Guide on Alternative Approaches to Life Safety 2001 Edition, and NFPA 101B Code for Means of Egress for Buildings and Structures 1999 Edition

C. American National Standards Institute (ANSI):

1. ANSI/IEEE C2 2000 National Electrical Safety Code
2. ANSI C135.1 1979 Galvanized Steel Bolts and Nuts for Overhead Line Construction
3. ANSI 05.1 1992 Wood Poles Specifications and Dimensions

D. American Wood-Preservers Association (AWPA):

1. AWPA C4 1999 Poles - Preservative Treatment by Pressure Processes

E. National Electrical Manufacturers Association (NEMA):

1. NEMA LA 1 1992 (R1999) Surge Arresters
2. NEMA WC 70 1999/ICEA S-95-658-1999 Nonshielded Power Cables Rated 2000 Volts or less for the Distribution of Electrical Energy
3. NEMA WC 71 1999/ICEA S 96-659-1999 Standard for Nonshielded Cables Rated 2001-5000 Volts for use in the Distribution of Electrical Energy
4. NEMA WC 72 1999 Continuity of Coating Testing for Electrical Conductors

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F. Underwriters Laboratories (UL):

1. UL 96 2000 Lightning Protection Components 4th Edition
2. UL Electrical Directories, Construction Materials, Latest Edition

G. United States Department of Agriculture:

1. Soil Conservation Service: Water Management and Sediment Control in Urbanizing Areas.

H. Code of Federal Regulations (CFR):

1. 29 CFR 1926 Occupational Safety and Health Administration, Dept. of Labor, Safety and Health Regulations for Construction
2. 29 CFR 1910 Occupational Safety and Health Administration, Dept. of Labor, Occupational Safety and Health Standards

I. American Water Works Association (AWWA):

1. C510 1997 Double Check Valve Backflow Prevention Assembly
2. C511 1997 Reduced-Pressure Principle Backflow Prevention Assembly

J. BOCA:

1. 4104:26:105 Backflow Ohio State Plumbing Code

1.5 SUBMITTALS

The Contractor shall submit a Mobilization Safe Work Plan for approval by Fluor Fernald that shall include the following:

A. Drawings and Data:

1. Detail and layout drawings showing locations of any barriers and/or fencing the Contractor will use for construction zones, radiological control boundaries, container staging areas, debris stockpiling areas, and barriers to be used for protection of adjacent structures.
2. Detail and layout drawings showing temporary structures, access and roadways required during mobilization of major equipment components (e.g., cranes, field offices, tool and equipment storage, chutes within the stated limits of the construction zone). This shall include personnel and flow patterns into and within the construction zone.
3. Drawings showing layout, details and applicable equipment, or plans the Contractor will employ to control fugitive emissions, storm water runoff, erosion, and migration of liquids.
4. Detail and layout drawings showing lay down areas, building vestibule sizes and locations, cutting areas and, as required by Section 01120, container staging areas, material inspection area, and debris stockpiling area(s).

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5. Shop drawings for all debris chutes to be used.
 - a. Provide manufacturer's data or calculations to verify that the chute, its support system and the existing structure (if the debris chute is attached) can withstand all dynamic impact loads they will be subjected to during dismantlement operations.
 - b. Debris chute drawings and calculations submitted must bear the stamp of a Professional Engineer registered in the State of Ohio.
- B. Temporary utilities (such as water, steam, electric power) from the point source location to end use locations, as identified on the reference site drawing.
- C. Portable heating systems.
- D. Verification that the patching grout compressive and bond strengths are in accordance with ASTM C109/C109M and ASTM C1042, respectively.
- E. Results of the Engineering Survey per 29 CFR 1926.850: (If any building or if part of a building to be dismantled is identified in the Contractor's engineering survey as being structurally deficient, the Contractor shall include in the Safe Work Plan proposed methods to shore the structure so that safety of the workers is maintained).
- F. Written statement that the Contractor accepts that all electric, gas, water, steam, sewer, and/or other service lines to the structures have been disconnected and/or capped.

PART II PRODUCTS

2.1 MATERIALS

- A. Patching Grout: Non-shrink type, premixed compound consisting of non-metallic aggregate; cement; water reducing and plasticizing agent; capable of developing minimum compressive strength of 5,000 psi in 28 days; capable of developing a bond strength of 1,200 psi in 28 days; conforming to ASTM C 109/C109M and ASTM C827.
 1. Acceptable products and suppliers:
 - a. Masterflow 713, by Masters Builders
 - b. SikaGrout 212, by Sika Corp
 - c. Sealtight 588, by W. R. Meadows
 - d. Approved equal
 2. The "approved equal" products shall be approved by Fluor Fernald prior to use at the FEMP.
- B. Construction Zone fencing shall meet the requirements for permanent fencing in Article 2.1.C., Gates, shall be plastic yellow chain fixed to stanchions. Stanchions shall be located on grade.

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- C. Permanent Fencing: Permanent fencing shall be a distance of 10 feet outside of the areas to be protected and shall consist of 14 gauge 2"x4" galvanized welded wire mesh 48" high with 7 foot high painted steel "T" posts embedded to a depth of 2 feet and placed at 10 foot intervals.
- D. If filling of slab openings is required per Article 3.2.B of this Section, clean granular fill is used to fill large openings in the base slab, including pits, large sumps, etc. The Contractor will supply this material. Use of fine aggregate shall be natural river sand, bank sand or sand manufactured from stone or air-cooled blast furnace slag; washed; free of silt, clay, loam, friable or soluble materials, and organic matter; within the following limits:

Sieve Size	Percent Passing
No. 4	100
No. 50	10 - 40
No. 200	0 - 5

- E. Gravel Pads for Access and Container Staging Areas

The aggregate shall be 6 - 8 inches of crushed limestone or gravel and compacted to form a 12 inch base.

- F. Wood Utility Poles:

1. ANSI 05.1; treated southern pine poles.
2. Select poles for straightness, minimum sweeps and short crooks. Fluor Fernald shall be notified of any sweeps or crooks prior to installation for determination of acceptance.
3. Preservative: ANSI 05.1 and AWPAC4, Pentachlorophenol.
4. Apply preservative to AWPAC4 with minimum net retention of 12 lbs/ft³ (285 kg/m³). Obtain complete sapwood penetration.

- G. Pole Hardware:

1. Miscellaneous Pole Hardware: Hot-dipped galvanized after fabrication
2. Bolts and Nuts: ANSI C135.1
3. Butt Plate: Copper
4. Guy Strand: High strength, seven strand steel cable galvanized to ASTM A475, Class A or B
5. Guy Termination: Preformed dead-end grip clamp type
6. Guy Guards: 8 foot (2 m) long plastic, colored yellow
7. Ground Wire: Soft drawn copper conductors, 6 AWG minimum size
8. Air Terminal: UL 96; 18 inch copper air terminal
9. Guy Adapter: Twin or Triple Eye

- H. Line Conductors:

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Secondary Conductors: Aluminum or copper, triplex (three) cable with 600 volt cross-linked polyethylene insulation for phase conductors. Use bare messenger for grounding conductor.

- I. Arresters:
 - 1. Surge Arresters: NEMA LA 1; valve type, arranged for pole mounting, and rated 3 kv.
 - 2. Mechanical Connectors: Bronze
 - 3. Wire: Stranded copper
 - 4. Grounding Conductor: Size to meet NFPA 70 requirements
- J. Pole Anchors: Helical screw anchor type sized for load; galvanized steel; ASTM A36/36M
- K. Backflow Prevention for Temporary Water Conditions (Reduced Pressure Type):
 - 1. The backflow preventor shall meet Ohio State Plumbing Code 4101:26:105 Backflow and the American Water Works Association (AWWA) Standard (AWWA C510 and C511) for Backflow Prevention Devices.
 - 2. Acceptable products and suppliers:
 - a. WATTS 909 Backflow Preventor (Fluor Fernald recommended product)
 - b. Approved equal
- L. Portable Heating Systems: All portable heaters shall be Underwriters Laboratories (UL) listed or American Gas Association (AGA) certified for their intended use, and are not modified for other applications.
- M. Materials Supplied by Owner:

Fluor Fernald shall supply signs, barriers, yellow snow fencing, and tape indicating radiological control zones for Contractor installation.
- N. Materials Supplied by Contractor:

The Contractor shall supply all materials (other than those listed in M. above) required for mobilization, demobilization, and other site requirements identified herein.

2.2 EQUIPMENT

The Contractor shall supply all equipment necessary for mobilization, demobilization, and other site requirements.

2.3 UTILITIES

Fluor Fernald will provide electrical power and water according to Part 6, Section 7.

PART III EXECUTION

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3.1 EXAMINATION

The Contractor shall perform an Engineering Survey in accordance with the requirements of OSHA 29 CFR 1926.850 and obtain approval from Fluor Fernald prior to mobilization.

3.2 PREPARATION

A. Site Access:

1. Vehicle, equipment and pedestrian access/egress shall be directed through the designated radiological control points.
2. Provide for emergency vehicles to enter the construction zone at all times.

B. Slab Repair:

1. Except for areas noted, on the Work Area Site Layout Drawing (which is found in the Contractor's Mobilization/Demobilization Work Plan), permanent fencing is required to prevent access to particular subsurface voids (e.g., basements, pits, and trenches). The Contractor shall fill large openings (e.g., pits, sumps, etc.) with granular fill material to within 2 inches of grade. Contaminated fill from the site should be used in lieu of clean material. Contaminated granular material or crushed concrete are both acceptable. If concrete rubble is used and the top layer needs to be graded smooth, it is acceptable to top the rubble with clean gravel. Alternatively, the Contractor may propose to use engineered covers that are capable of supporting anticipated loads during D&D. Fluor Fernald shall approve alternatives.
2. Portions of the building slab, which are not identified on the Work Area Site Layout Drawing (which is found in the Contractor's Mobilization/Demobilization Work Plan) as areas to be protected with permanent fencing are potential locations for interim storage, stockpiling of contaminated debris, or for staging of contaminated equipment. In those areas, the slab openings (i.e., conduit, piping, drain openings, etc.) shall be filled and covered with patching grout. Additional requirements for potential stockpiling areas include the following:
 - a. Drain water and remove loose debris from large openings in the base slab including pits, sumps, trenches, etc., prior to filling.
 - b. All grease, oil, dirt and other deleterious materials shall be completely removed from slab openings and handled in accordance with Section 01120.
 - c. Follow the manufacturer's recommendations for the application of patching grout.
 - d. Fill in damaged areas of base slab and small openings including drains, chases, small sumps, etc., with a patching grout to create a surface level with surrounding slab. Maximum allowable depression not requiring repair is 1 inch in depth.
 - e. Concrete reinforcements, such as rebar, shall be cut flush with the slab.

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C. Construction Utilities:

1. Prior to mobilization, the Contractor shall conduct a physical survey to verify that all utilities are capped and/or controlled to the Contractor's satisfaction.
2. The Contractor shall determine if the capacities that can be provided by Fluor Fernald are adequate for their needs; if not, the Contractor shall notify Fluor Fernald in writing of needs for evaluation.
3. All electrical appurtenances required for temporary power shall be in accordance with the National Electric Code.
4. Temporary heating or cooling, if needed, shall be provided by the Contractor. Ventilation for fuel-fired heaters and adequate clearance to combustible materials, surfaces, and furnishings shall be provided according to manufacturer's recommendations. Use of LPG gas-fired heaters shall be approved by Fluor Fernald. All portable continuous running of gas fired heating systems require 24 hour coverage by the Contractor.
5. The Contractor shall extend construction water from the point source location to support operations or provide portable facilities. Tie-in to water point source shall require a backflow preventor in accordance with the Ohio State Plumbing Code, as referenced in Article 1.4. Installation, maintenance, and inspection of the backflow preventor shall be by a licensed plumber. The licensed plumber shall be certified in the State of Ohio as a Backflow Preventor Tester.

The individual who provides only the hook-up of a backflow preventor need not be a certified and licensed plumber provided that the hook-up is inspected by a certified and licensed plumber prior to system operation.

- a. The Contractor shall supply, install, and maintain all backflow prevention devices (in accordance with Article 2.1 of this Section), fittings, and valves for point source connections.
 1. The contractor shall provide Fluor Fernald with the backflow prevention device at least two weeks prior to installation for inspection.
 2. Fluor Fernald will test and approve the backflow preventor for contractor installation.
- b. Every 12 months after installation, Fluor Fernald will inspect the assemblies. The Contractor shall coordinate water hook-up with Fluor Fernald. Fluor Fernald will activate hydrants.
- c. At project completion, the Contractor shall turn all backflow prevention devices, fittings, and valves over to Fluor Fernald in good working order at no additional costs.
- d. Backflow devices shall have freeze protection and be accessible for inspection.

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D. Signs and Barriers:

1. The Contractor shall protect manholes, catch basins, valve pits, underground utilities, post indicator valves, power poles and drains, adjacent structures, groundwater monitoring wells, existing exterior benchmarks, and survey monuments from damage. If any are displaced or lost, the Contractor shall replace or repair at no additional cost to Fluor Fernald.
2. The Contractor shall post construction safety signs at 50 feet intervals around the defined construction area, unless otherwise approved by the Fluor Fernald Project Team or Health and Safety personnel. Fencing must be supported by posts driven into the ground. The Contractor shall regularly inspect all fences and barriers for integrity in a prompt manner throughout the D&D project and repair as necessary.
3. The fencing described in 2.1.B., 2.1.C, and 3.2.D.2 may serve as both a construction work zone boundary fence and the radiological control fence in outdoor areas. However, the Contractor shall install additional radiological control fencing as required to delineate areas discussed below. The preferred fencing is as per 2.1.C; however, yellow snow fence may be used.
 - a. The yellow fencing shall be used to designate the following boundaries:
 - 1). Contamination Area/Controlled Area;
 - 2). High Contamination Area/Contamination Area;
 - 3). Adjacent Contamination Areas controlled for different radionuclides; and/or
 - 4). Any other boundaries between different levels of radiological control.
 - b. Existing physical barriers, such as permanent fences or building walls, may serve as part of the radiological boundary where appropriate.
4. Fencing for short-term work, i.e., work within the project construction zone boundary, may be supported with portable stanchions placed at no more than six feet apart. Entry points shall be established such that they may be easily opened and can be held closed. These points shall be large enough to support traffic and/or movement of waste containers. For situations where personnel access is the only need, the Contractor may utilize building doors or overlapping yellow fence that can be tied back and supported by the remaining fence while open (i.e., will not lie on the ground).
5. Permanent Fencing: Upon completion of D&D activities, the Contractor shall install permanent fencing around specific areas as identified on the Work Area Site Layout Drawing (which is found in the Contractor's Mobilization/Demobilization Work Plan). Article 2.1.C of this Section defines the material and placement specifications. An access gate, using the same fence material, shall be installed at one location along the perimeter fencing, this allows subsequent access by Fluor Fernald. The gate shall have a latch that can be locked.

E. Potential Use of Existing Overhead Bridge Cranes:

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Use of Existing Overhead Bridge Cranes shall be in accordance with the requirements specified in Part 8, Section B.6.0 of the IFB. Existing Overhead Bridge Cranes or other existing hoisting devices shall not be allowed without prior approval from the Fluor Fernald Construction Manager.

F. Gravel Pads for Access and Queuing Areas:

Grading of site shall prevent ponding of water. Use a minimum slope of 1 percent. All grading will direct water toward the site's storm drainage system.

G. Stormwater Control:

Storm water control will be required for activities that could disturb soils or otherwise allow for release of contaminants from stockpiled debris. Storm drainage systems within the construction zone shall be maintained free and clear of debris and sediments by use of control devices, such as staked silt fences, and be maintained throughout the project. Hay/straw bales are not acceptable control devices.

H. Debris Chutes:

1. The Contractor shall ensure that catch platforms, chutes and other means of handling debris are properly isolated by gates or barriers designed and constructed to eliminate impact hazards and to control the flow of material to its final destination.
2. Debris chutes shall meet the requirements of 29 CFR 1926.852.
3. Debris chutes shall be fully enclosed, dust-tight and ventilated.
4. Fluor Fernald may prohibit the use of a debris chute if the radiological contamination levels could result in the uncontrolled generation of airborne radioactivity.

I. Remediation Equipment:

1. Identify any special requirements for storing material or equipment.
2. To minimize the generation of waste products by the Contractor, all equipment requiring periodic oil and filter changes shall have this maintenance performed just prior to arrival on site.
3. Additional requirements for mobilization and demobilization of remediation equipment are listed in Part 8, Section B.12.

J. Ventilation and Containment:

1. If release cleaning for structures is required, as specified in the Radiological Requirements Plan contained in Part 8, Section C 2.0, a vestibule on the entry/exit of the building access prior to the beginning of work shall be installed. The vestibule shall be constructed so as to prevent the escape of airborne contamination. Material used for the construction of vestibules shall be in compliance with Section 15067.

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2. Enclose structure and ensure that all holes, gaps, openings in exterior building structure walls and roofs are sealed with duct tape, fiber-reinforced sheeting, plywood or foam material (including where doors or windows are missing) in accordance with Section 15067. Enclosed structures shall allow for emergency exits.

3.3 DEMOBILIZATION AND FINAL PROJECT SITE ACCEPTANCE

- A. Demobilization includes the decontamination and removal of all contractor tools, equipment, facilities, materials, and construction zone perimeter fencing.
- B. Final project site acceptance shall be conducted by Fluor Fernald, and will consist of verification of completion of all work activities relating to the work scope.

END OF SECTION

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